

Mineral Industry Surveys

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COBALT IN DECEMBER 2003

On the basis of preliminary data, reported consumption of cobalt in the United States in 2003 was nearly equal in amount to that consumed in 2002, according to the U.S. Geological Survey. The cobalt content of U.S. imports of cobalt metals and chemicals was 8% lower in January through November 2003 than that of imports during the same period in 2002. The cobalt content of U.S. exports of unwrought cobalt and chemicals was 24% higher in January through November 2003 than that of exports during the same period in 2002. Trade data for December 2003 will be available in a subsequent issue.

Price

Prices for electrolytic cobalt, in dollars per pound from Platts Metals Week, are listed below.

<u>Date</u>	<u>Price range</u>
January 15	27.00-29.00
January 22	26.00-29.00
January 29	27.00-28.00
February 5	27.00-28.00
February 12	26.00-27.00

<u>Month</u>	<u>Average price</u>
January	26.63

TABLE 1
U.S. REPORTED CONSUMPTION OF COBALT MATERIALS¹

(Metric tons, contained cobalt)

Period	Metal ²	Oxide and other chemical compounds ³	Scrap	Total
2002:				
December	226	100	222	548
January-December ⁴	2,980	1,260	2,670	6,920
Year ⁵	3,870	1,270	2,800	7,930
2003:				
January	259	155	167	581
February	252	160	167	579
March	251	170	167	588
April	254	164	167	585
May	266	166	167	599
June	254	169	167	590
July	250	157	167	574
August	254	164	167	585
September	259	168	167	594
October	252	165	167	584
November	265	155	167	588 ^r
December	241	156	167	565
January-December ⁴	3,060	1,950	2,010	7,010

^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes metal powder.

³Data may include other cobalt materials.

⁴Data based on monthly reports.

⁵Includes annual reports.

TABLE 2
U.S. REPORTED CONSUMPTION OF COBALT, BY END USE¹

(Metric tons, contained cobalt)

End use	2002		2003	
	January- December ²	Year ³	December	January- December ^{2, 4}
Steel	418	555	30	366
Superalloys	3,300	3,700	251	3,170
Magnetic alloys	364	416	31	385
Other alloys ⁵	W	634	W	W
Cemented carbides ⁶	617	617	58	679
Chemical and ceramic uses ⁷	1,940	1,950	172	2,140
Miscellaneous and unspecified	273 ^r	63	23	273
Total	6,920	7,930	565	7,010

^rRevised. W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified."

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Data based on monthly reports.

³Includes annual reports.

⁴May include revisions to prior months.

⁵Includes nonferrous alloys, welding materials, and wear-resistant alloys.

⁶Includes diamond tool matrices, cemented and sintered carbides, and cast carbide dies or parts.

⁷Includes catalysts, driers in paints or related usage, feed or nutritive additive, glass decolorizer, ground coat frit, pigments, and other uses.

TABLE 3
U.S. REPORTED STOCKS OF COBALT MATERIALS¹

(Metric tons, contained cobalt)

Period	Industry ²			Total	U.S. Government, metal ⁵
	Metal ³	Oxide and other chemical compounds ⁴	Scrap		
2002:					
December ⁶	456	222	188	867	6,680
Yearend ⁷	486	242	189	917	6,680
2003:					
January	425	222	188	836	6,360
February	402	210	188	800	6,200
March	396	209	188	793	6,170
April	359	200	188	747 ^r	5,750
May	366	206	188	760	5,450
June	366	200	188	754	5,240
July	369	216	188	773	5,040
August	387 ^r	206 ^r	188	781 ^r	4,990
September	402	206	188	795	4,930
October	396	203	188	787	4,750
November	368	203	188 ^r	759	4,640
December	387	204	188	779	4,290

^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Stocks reported by cobalt processors and consumers.

³Includes metal powder.

⁴Data may include other cobalt materials.

⁵Data from Defense National Stockpile Center. Includes material committed for sale pending shipment.

⁶Data based on monthly reports.

⁷Includes annual reports.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF COBALT, BY COUNTRY¹

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Metals ²		Oxides and hydroxides		Salts and compounds ³		Total cobalt content for the month ⁵	Cobalt content, year to date ^{5, 6}
	Quantity	Value ⁴	Quantity	Value ⁴	Quantity	Value ⁴		
2002:								
November	321,000	\$5,550,000	77,000	\$1,040,000	195,000	\$657,000	430,000	7,960,000
December	415,000	6,480,000	90,600	1,220,000	147,000	587,000	520,000	8,480,000
January-December	6,840,000	114,000,000	1,300,000	20,000,000	2,580,000	10,500,000	8,480,000	XX
2003:								
January	384,000	6,640,000	65,200	1,020,000	66,300	234,000	449,000	449,000
February	511,000	8,840,000	121,000	1,630,000	91,100	382,000	623,000	1,070,000
March	794,000	13,700,000	124,000	2,050,000	68,100	424,000	903,000	1,970,000
April	556,000	10,500,000	119,000	2,000,000	144,000	739,000	681,000	2,660,000
May	546,000	10,700,000	237,000	4,210,000	127,000	764,000	755,000	3,410,000
June	454,000	9,210,000	108,000	1,960,000	133,000	797,000	568,000	3,980,000
July	641,000	13,000,000	104,000	1,690,000	130,000	824,000	752,000	4,730,000
August	390,000 ⁷	8,440,000 ⁷	59,100	963,000	70,700	480,000	452,000	5,180,000
September	712,000	14,000,000	92,800	1,560,000	166,000	1,160,000	831,000	6,010,000
October	526,000	11,100,000	100,000	1,660,000	152,000	1,060,000	644,000	6,660,000
November:								
Australia	--	--	--	--	--	--	--	222,000
Austria	--	--	--	--	--	--	--	1,760
Belgium	230	5,450	31,000	579,000	--	--	22,600	621,000
Brazil	30,000	615,000	--	--	--	--	30,000	254,000
Canada	70,900	1,420,000	--	--	--	--	70,900	447,000
China	23,000	507,000	36,000	484,000	14,400	91,500	52,600	264,000
Congo (Kinshasa)	--	--	--	--	--	--	--	178,000
Finland	33,100	999,000	25,400	449,000	33,500	251,000	63,100	1,030,000
France	2,100	119,000	--	--	--	--	2,100	54,600
Germany	--	--	--	--	--	--	--	30,800
India	--	--	--	--	10,000	40,400	2,700	13,500
Ireland	--	--	--	--	--	--	--	6,160
Japan	13,300	290,000	--	--	--	--	13,300	131,000
Korea, Republic of	100	5,660	--	--	--	--	100	28,000
Luxembourg	--	--	--	--	--	--	--	4,580
Morocco	--	--	--	--	--	--	--	20,000
Netherlands	--	--	--	--	--	--	--	20,000
Norway	160,000	3,550,000	--	--	--	--	160,000	1,590,000
Philippines	--	--	--	--	20,000	105,000	5,400	35,300
Russia	177,000	4,020,000	--	--	--	--	177,000	1,520,000
Saudi Arabia	--	--	--	--	--	--	--	1,700
South Africa	--	--	1,500	25,000	--	--	1,080	103,000
Sweden	1,340	27,100	--	--	--	--	1,340	23,000
Switzerland	154	6,610	1	2,360	--	--	155	6,350
Taiwan	140	4,640	--	--	--	--	140	380
Uganda	--	--	--	--	--	--	--	5,100
United Kingdom	1,110	21,400	9,650	178,000	--	--	8,060	234,000
Zambia	41,000	761,000	--	--	--	--	41,000	475,000
Total	553,000	12,300,000	104,000	1,720,000	77,900	488,000	651,000	7,310,000

XX Not applicable. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Unwrought cobalt, excluding alloys; includes cobalt cathode and cobalt metal powder; may include intermediate products of cobalt metallurgy.

³Includes cobalt acetates, cobalt carbonates, cobalt chlorides, and cobalt sulfates.

⁴Customs value.

⁵Estimated from gross weights.

⁶May include revisions to prior months.

⁷All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS, BY COUNTRY ¹

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Unwrought cobalt alloys		Cobalt waste and scrap		Wrought cobalt and cobalt articles	
	Quantity	Value ²	Quantity	Value ²	Quantity	Value ²
2002:						
November	200	\$13,900	9,310	\$96,000	19,300	\$1,010,000
December	843	45,700	6,550	100,000	16,600	960,000
January-December	56,900	1,310,000	206,000	1,720,000	231,000	11,600,000
2003:						
January	2,270	99,800	11,900	168,000	12,600	659,000
February	844	31,600	2,820	43,100	14,800	722,000
March	1,910	68,700	79,300	536,000	12,200	953,000
April	5,170	152,000	20,500	253,000	15,500	933,000
May	1,510	46,000	55,100	558,000	20,400	1,220,000
June	3,010	33,900	15,100	256,000	13,700	1,050,000
July	230	14,600	30,600	175,000	18,400	1,280,000
August	440	23,500	86,200	618,000	14,400	787,000
September	475	13,000	10,700	126,000	9,410	646,000
October	8,170	84,200	47,900	324,000	11,300	810,000
November:						
Belgium	207	4,500	1,500	35,300	1,340	57,400
Canada	--	--	20,600	133,000	1,220	242,000
France	--	--	--	--	2,650	116,000
Germany	1,170	23,900	2,380	38,200	4	8,590
Ireland	--	--	7,210	99,000	--	--
Israel	--	--	194	3,880	--	--
Japan	500	25,200	--	--	1,140	27,600
United Kingdom	997	29,700	36,800	169,000	4,950	194,000
Total	2,870	83,200	68,700	479,000	11,300	646,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Customs value.

³All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.

TABLE 6
U.S. EXPORTS OF COBALT MATERIALS¹

(Kilograms, gross weight of material, except as noted)

Period	Unwrought cobalt, powders, matte, waste and scrap ²		Oxides and hydroxides		Salts and compounds ³		Total cobalt content for the month ⁵	Cobalt content, year to date ^{5,6}
	Quantity	Value ⁴	Quantity	Value ⁴	Quantity	Value ⁴		
2002:								
November	173,000	\$3,520,000	47,000	\$741,000	61,700	\$233,000	221,000	1,920,000
December	110,000	1,730,000	44,100	606,000	95,000	244,000	165,000	2,080,000
January-December	1,600,000	34,800,000	558,000	7,040,000	329,000	1,430,000	2,080,000	XX
2003:								
January	151,000	2,800,000	39,200	475,000	17,100	82,000	183,000	183,000
February	143,000	2,820,000	23,700	336,000	54,200	316,000	173,000	357,000
March	110,000	3,110,000	44,800	459,000	17,000	102,000	146,000	503,000
April	205,000	3,330,000	66,000	936,000	146,000	672,000	288,000	791,000
May	220,000	3,600,000	14,200	340,000	27,800	158,000	237,000	1,030,000
June	232,000	4,770,000	18,600	238,000	9,710	54,600	248,000	1,280,000
July	191,000	6,570,000	43,000	845,000	41,800	294,000	232,000	1,510,000
August	187,000	4,270,000	17,400	338,000	56,600	324,000	213,000	1,720,000
September	227,000	3,980,000	15,200	191,000	10,000	57,100	240,000	1,960,000
October	184,000	2,890,000	9,310	166,000	118,000	603,000	219,000	2,180,000
November	137,000	3,650,000	54,500	1,010,000	70,600	447,000	193,000	2,370,000

XX Not applicable.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include other intermediate products of cobalt metallurgy and unwrought cobalt alloys.

³Cobalt acetates and cobalt chlorides.

⁴Free alongside ship (f.a.s.) value.

⁵Estimated from gross weights.

⁶Year to date may include revisions to prior months.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.

TABLE 7
U.S. EXPORTS OF WROUGHT COBALT, COBALT ORE, AND CONCENTRATES¹

(Kilograms, gross weight of material, except as noted)

Period	Wrought cobalt and cobalt articles		Cobalt ore and concentrates	
	Quantity	Value ²	Quantity	Value ²
2002:				
November	51,400	\$1,880,000	158	\$5,450
December	64,700	1,650,000	10,200	61,000
January-December	923,000	26,600,000	307,000	1,310,000
2003:				
January	76,900	2,700,000	817 ³	8,240 ³
February	55,600	1,540,000	4,020 ³	44,500 ³
March	124,000	3,740,000	100 ³	3,850 ³
April	71,900	2,210,000	2,680 ³	24,100 ³
May	56,100	2,060,000	53,000 ³	705,000 ³
June	100,000	2,940,000	238,000 ³	257,000 ³
July	69,200	2,240,000	33,100 ³	372,000 ³
August	65,500	2,720,000	73,700 ³	473,000 ³
September	89,600	3,090,000	32,100 ³	149,000 ³
October	116,000	3,150,000	74,400 ³	979,000 ³
November	97,000	2,440,000	29,000 ³	559,000 ³

¹Revised.

²Data are rounded to no more than three significant digits; may not add to totals shown.

³Free alongside ship (f.a.s.) value.

⁴All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.